Rice University
Department of Economics
Spring 2016
ECON 462: Economics of Human Capital

Instructor: Flávio Cunha
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Office Hours: Mondays, from 3:30 pm to 5:00 pm or by appointment.

Classes: Tuesdays and Thursdays from 2:00 PM to 3:15 PM at BKH XXX.
Lab sessions: Tuesdays from 6:00 PM to 7:15 PM at BKH XXX.

Important Dates: Please consider the following information:

- There will be no class on April 7, 2015. I will work with you to determine an alternative date and time to make up for these classes.

Course Description: ECON 462 covers both micro and macro aspects of human capital. We will study investments by parents in the education and other human capital of their children and how it links to the intergenerational transmission of inequality. The relation between human capital, population change, and economic growth is also emphasized. The course is quantitative and students will be required to understand and apply econometric techniques.

Course Outcomes: By the end of this course, a student will be able to (i) understand the role human capital plays in determining long-run economic growth; (ii) comprehend how families, schools, and firms affect human capital formation of individuals; (iii) analyze the evaluation results of policies that aim to foster human capital formation, (iv) apply statistical and data collection techniques to design an evaluation of an economic policy or social program.

Prerequisites: ECON 200 (or 301) and ECON 209 (or 309).

Course Requirements: There are five course requirements.

1. Project on human capital formation (30%): Each student will propose a policy to improve human capital formation in the US or any other country in the world. Each student will submit a hard copy which cannot exceed 7,500 words and must be submitted by e-mail to instructor and the TA by 11:59 PM on XXX.
   It is important for you to keep in mind that this assignment requires you address the following topics:
   a. The problem you want to tackle.
   b. The intervention you believe could solve the problem of interest.
   c. The implementation of the intervention.
   d. The design of the impact evaluation of this intervention.

2. Midterm Exam 1 (15%): February 11, closed books and notes. There will be no make-up examination for the midterm. If a student is excused from the midterm exam, his or her other exams will be weighted accordingly.
3. Midterm Exam 2 (15%): March 24, closed books and notes. There will be no make-up examination for the midterm. If a student is excused from the midterm exam, his or her other exams will be weighted accordingly.
4. Final Exam (40%): Date and location TBA, closed books and notes. If you cannot take the exam on the date specified by the University, then you should let the Instructor and the TA know as soon as possible. The Instructor and TA will work with you to determine a different date, time, and location for the Final Exam.

Grading Policy: You must submit your project on human capital formation and you must take the final exam. If you are not able (or choose not) to take any of the midterms, the weights in the assignments you missed will be reallocated to the assignments you did not miss.

Students with Documented Disabilities: If you have a documented disability that will require accommodations in this course, please let me know as soon as possible. If you have not done so already, please also contact Disability Support Services in the Allen Center, Room 111.

Policy on Laptops and Other Electronic Devices: To keep us focused on the class and on each other, we will put away laptops and all other electronic devices. If you want to store all class material on your laptop, transcribing your handwritten notes after lecture is a great a way to nail the material. I will post a PDF of the slides after lecture to facilitate this process.

For the lab sessions, students are encouraged to bring their own laptop. We will teach you how to use open-source software that can be used for econometrics and computational economics.

Books: I will use four chapters of *Introduction to Economic Growth* (2nd Edition) by Charles I. Jones and six chapters of *Introduction to Econometrics* (3rd Edition) by James Stock and Mark Watson. I think it is a good idea for you to read these chapters, but I do not expect you to buy these books as you can find them on reserve at Fondren Library.

Course Outline

1. Theory of Long-Run Economic Growth:
    a. The Solow Model: Chapters 2 of *Introduction to Economic Growth* (2nd Edition), Charles I. Jones.
    b. The Romer Model: Chapters 4 & 5 of *Introduction to Economic Growth* (2nd Edition), Charles I. Jones.
2. Review of Econometrics:
    a. Least Squares: Chapters 4 & 5 in *Introduction to Econometrics* (3rd Edition), James Stock and Mark Watson.
    b. Instrumental Variables: Chapter 12 in *Introduction to Econometrics* (3rd Edition), James Stock and Mark Watson.
    c. Experiments and Quasi-Experiments: Chapter 13 in *Introduction to Econometrics* (3rd Edition), James Stock and Mark Watson.
3. Empirics of Long-Run Economic Growth:
    a. Technological change and comparison of economic well-being over time:

i. Nordhaus, William (1993). “Do Real-Output and Real-Wage Measures Capture Reality? The History of Lighting Suggests Not,” *Cowles Foundation Paper* No. 957.

b. Spillovers: Ideas Are Nonrival.
   i. Jaffe, Adam B.; Trajtenberg, Manuel; Henderson, Rebecca (1993). “Geographic Localization of Knowledge Spillovers as Evidenced by Patent Citations,” *Quarterly Journal of Economics*, Vol. 108(3): 577-598.
   ii. Greenstone, Michael; Hornbeck, Richard; and Moretti, Enrico (2010). “Identifying Agglomeration Spillovers: Evidence from Winners and Losers of Large Plant Openings,” *Journal of Political Economy*, Vol. 118(3): 536-598.

c. Standards of Measurement: Nonrivalry and Increasing Returns to Scale
   i. Hale, Ken; Krauss, Michael; Watahomigie, Lucille J.; Yamamoto, Akira Y.; Craig, Colette; LaVerne, Masayesva J., England, Nora C. (1992). "Endangered Languages," *Language*, Vol. 68(1): 1-42
   ii. Mundell, Robert A. (1961). “A Theory of Optimum Currency Areas,” *American Economic Review*, Vol. 51(4): 657-665.

d. Increasing Returns to Scale and Imperfect Competition:
   i. Increasing Returns to Scale and Imperfect Competition: Chapter 6 in International Trade (3rd Edition), Robert C. Feenstra and Alan M. Taylor.
   ii. Trefler, Daniel (2004). “The Long and Short of the Canada-U.S. Free Trade Agreement,” *American Economic Review*, 94(4): 870-895.

4. Theory of Human Capital Formation:
   a. Becker, Gary and Nigel Tomes (1986). “Human Capital and the Rise and Fall of Families,” *Journal of Labor Economics*, Vol. 4(3): S1-39.
   b. Cunha, Flavio and James J. Heckman (2007). “The Technology of Skill Formation,” *American Economic Review*, Vol. 97(2): 31-47.
5. Early Human Capital Accumulation
   a. Perry Preschool/Abecedarian
   b. Attanasio, O., Murtaza, S. and Veras-Hernandez, M. (2004). “Early Evaluation of a New Nutrition and Education Programme in Colombia,” *Institute for Fiscal Studies Briefing Note* No. 44.
   c. K Macours, N Schady, R Vakis (2012). “Cash transfers, behavioral changes, and cognitive development in early childhood: Evidence from a randomized experiment,” *American Economic Journal: Applied Economics* 4 (2), 247-273.
6. Human Capital Formation in Elementary and Secondary Education
   a. Class Size and Peers:
      i. Lazear, Edward (2001). “Educational Production,” *Quarterly Journal of Economics*, Vol. 116(3): 777-803.
      ii. Krueger, Alan (1999). “Experimental Estimates of Education Production Functions,” *Quarterly Journal of Economics*, Vol. 114(2): 497-532.
      iii. Araujo, Maria Caridad; Carneiro, Pedro; Cruz-Aguayo, Yyannu; Schady, Norbert (2014). “A Helping Hand? Teacher Quality and Learning Outcomes in Kindergarten,” University College London Working Paper.
      iv. Glewwe, P., Ilias, N. and Kremer, M. (2003). Teacher Incentives. *NBER Working Paper Series* No. 9671.
      v. Duflo, E., Hanna, R. and Ryan, S. (2007). “Monitoring Works: Getting Teachers to Come to School,” *The American Economic Review*, Vol. 102(4): 1241-1278.

b. School Choice: Vouchers and Charter Schools
    i. Mayer, Daniel, Paul Peterson, David Myers, Christina Clark Tuttle and William Howell (2002). "School Choice in New York City After Three Years: An Evaluation of the School Choice Scholarships Program" *Mathematica Policy Research Report*.
    ii. Peterson, P. (2003). "School Vouchers: Results from Randomized Experiments," in C. Hoxby, ed. *The Economics of School Choice*, Chicago: University of Chicago Press.
    iii. Dobbie, Will and Roland G. Fryer. (2010) "Are High-Quality Schools Enough to Increase Achievement Among the Poor? Evidence from the Harlem Children's Zone," *NBER Working Paper* No. 15473.
    iv. Kane, Thomas J. and Douglas O. Staiger (2002). "The Promises and Pitfalls of Using Imprecise School Accountability Measures," *Journal of Economic Perspectives*, Vol. 16(4): 91-114.

7. Human Capital Formation in Higher Education
    a. Market for Higher Education:
        i. Rothschild, M. and White, L. J. (1995). "The Analytics of the Pricing of Higher Education and Other Services in Which the Customers Are Inputs," *Journal of Political Economy*, Vol. 103(3): 573-586.
        ii. Hoekstra, M. (2009). "The Effect of Attending the Flagship State University on Earnings: A Discontinuity-Based Approach," *Review of Economics and Statistics*, Vol. 91(4): 717-724.
        iii. Avery, Christopher & Hoxby, Caroline. (2013) "The Missing 'One-Offs': The Hidden Supply of High-Achieving, Low Income Students."
        iv. Hoxby, Caroline & Turner, Sarah (2015). "Expanding College Opportunities for High-Achieving, Low-Income Students."
        v. Bettinger, Eric P., Bridget Terry Long, Philip Oreopoulos, Lisa Sanbonmatsu (2009). "The Role of Simplification and Information in College Decisions: Results from the H&R Block FAFSA Experiment." National Bureau of Economic Research Working Paper No. 15361.
        vi. Azoulay, Pierre; Zivin, Joshua S. Graff; and Wang, Jialan (2010): "Superstar Extinction," The Quarterly Journal of Economics, Vol. 125 (2): 549-589
8. Human Capital Formation in the Labor Market
    a. Ricardo Cossa, James J. Heckman, and Lance J. Lochner (2003). "Learning-By-Doing Vs. On-the-Job Training: Using Variation Induced by the EITC to Distinguish Between Models of Skill Formation," in Phelps. E. (ed.) *Designing Inclusion: Tools to Raise Low-end Pay and Employment in Private Enterprise*, Cambridge: Cambridge University Press.
9. Education as Signal
    a. Bedard, Kelly J. (2001) "Human Capital versus Signaling Models: University Access and High School Dropouts," *Quarterly Journal of Economics*, Vol. 109(4): 749-775.
    b. Weiss, Andrew. 1995. "Human Capital vs. Signaling Explanations for Wages," *Journal of Economic Perspectives*, Vol. 9(4): 133—154.